



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
10/825,526	04/15/2004	Masatake Nukui	16CT03014	8387	
7590	12/19/2005		EXAMINER		
Patrick W. Rasche Armstrong Teasdale LLP Suite 2600 One Metropolitan Square St. Louis, MO 63102		KAO, CHIH CHENG G			
		ART UNIT		PAPER NUMBER	
		2882			
DATE MAILED: 12/19/2005					

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)
	10/825,526	NUKUI ET AL.
	Examiner Chih-Cheng Glen Kao	Art Unit 2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) _____ is/are rejected.
- 7) Claim(s) 1-16 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 15 April 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/15/04</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

EX PARTE QUAYLE

This application is in condition for allowance except for the following formal matters.

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: (fig. 3, "S510" and "S512").

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: (page 16, line 12, "X-ray CT system 1").

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The specification is objected to because of the following informalities, which appear to be minor draft errors including drawing inconsistencies.

In the following format (location of objection; suggestion for correction), the following corrections may obviate their respective objections: (page 5, lines 12-13; replacing “shows a sinogram produced from projection information values acquired from a phantom, and the projection information values” with - -shows the positional relationship between a phantom and a rotary assembly- -) and (page 5, line 14; replacing “shows the positional relationship between a phantom and a rotary assembly” with - -shows a sinogram produced from projection information values acquired from a phantom, and the projection information values- -).

Appropriate correction is required.

Claim Objections

3. Claims 1-16 are objected to because of the following informalities, which appear to be minor draft errors including grammatical and lack of antecedent basis problems.

In the following format (location of objection; suggestion for correction), the following corrections may obviate their respective objections: (claim 1, line 4, “the beam-hardening”; replacing “the” with - -a- -), (claim 1, line 14, “the corrected second”; replacing “corrected” with - -modified- -), (claim 3, line 4, “the reflections”; deleting “the”), (claim 3, line 6, “the

dependencies”; deleting “the”), (claim 3, line 6, “the detection characteristics”; “deleting “the”), (claim 3, line 8, “the reflections”; deleting “the”), (claim 8, line 2, “set in array”; inserting - -an- - before “array”), (claim 9, lines 3-4, “plural direction”; replacing “direction” with - -directions- -), (claim 9, lines 4-5, “the beam-hardening”; replacing “the” with - -a- -), (claim 9, line 15, “the corrected second”; replacing “corrected” with - -modified- -), (claim 11, line 5, “the reflections”; deleting “the”), (claim 11, lines 6-7, “the dependencies”; deleting “the”), (claim 11, line 7, “the detection characteristics”; “deleting “the”), (claim 11, line 9, “the reflections”; deleting “the”), and (claim 16, line 2, “set in array”; inserting - -an- - before “array”).

Claims 2, 4-7, 10, and 12-15 are objected to by virtue of their dependency. For purposes of examination, the claims have been treated as such. Appropriate correction is required.

4. Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Allowable Subject Matter

5. Claims 1-16 contain allowable subject matter. The following is a statement of reasons for the indication of allowable subject matter.

6. Regarding claim 1, prior art fails to disclose or fairly suggest an X-ray CT system including a correction coefficient modifying device for modifying a second correction

coefficient, which a correction coefficient producing device calculates using projection information acquired from a second phantom larger than a first phantom, using a first correction coefficient which said correction coefficient producing device calculates using projection information acquired from said first phantom; and a correcting device for correcting projection information, which is acquired from a subject positioned in a scan field, using the first correction coefficient and the modified second correction coefficient, in combination with all the limitations in the claim. Claims 2-8 contain allowable subject matter by virtue of their dependency.

7. Regarding claim 9, prior art fails to disclose or fairly suggest a beam-hardening post-processing method for X-ray CT systems including a producing step of producing first and second coefficients, which are used for correction, from projection information acquired from first and second phantoms, wherein said second phantom is larger than said first phantom, a modifying step of modifying the second correction coefficient using the first correction coefficient, and a correcting step of correcting projection information, which is acquired from a subject positioned in a scan field, using the first correction coefficient and the modified second correction coefficient, in combination with all the limitations in the claim. Claims 10-16 contain allowable subject matter by virtue of their dependency.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents and Patent Application Publication 4352020, 5565678, 6944258, and

2004/1096960 disclose a second larger phantom for correction (figs. 2a-2e, col. 2, lines 4-6, col. 11, lines 26-36, and paragraph 117, respectively).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


gk


EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER